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ABSTRACT

A study was conducted to investigate the influence of systematic trends in the successfulness of children's performance upon subsequent parental disciplinary actions. A total of 30 mothers 24 to 45 years of age and their sons, ages 4 to 7.5 years, participated. Mothers were provided with predetermined sequences of trial-by-trial information about their sons' successes and failures on learning tasks. This predetermined information made it appear to mothers that their sons were doing progressively better, worse, or that there was no systematic change in performance. Effects of these performance trends on the amount of reward and punishment mothers administered were measured. Findings indicated that systematic trends in children's responses exert differential control over mothers' rewarding and punishing behaviors. Particularly, results indicated that each different trend in success rate had unique effects on maternal reward and punishment. It was found that (1) a stable success rate had no systematic differential effects on either reward or punishment, (2) performance that improved over trials led to increases in the mother's rewarding but did not influence her punishing, and (3) a child's deteriorating performance occasioned increases in both maternal rewarding and punishing. (RH)

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Effects of boys' improving, deteriorating, and stable learning performances on their mothers' administration of rewards and punishers

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Most parents use rewards and punishments in some consistent manner in trying to influence their children's behavior. And, sometimes, the parents' attempts are successful and their children do very well. But, sometimes, despite the parents' best efforts, their disciplinary techniques do not have the desired effect on their children's behavior. What does a parent do then? Stated otherwise, how does the child's behavior influence the parent's disciplinary strategy?

With respect to parent-child relations, Bell (1971) has pointed out that bidirectional influences occur in parent-child interactions. Accordingly, to understand parent-child relations, it is necessary, on the one hand, to understand how a parent's actions influence a child and, on the other hand, how the child's actions influence the parent. Bell also noted that research, up through a decade ago, provided essentially unidirectional information concerning parent-child interactions. In sum, theory and research had been

focused primarily on the effects of parent's actions on their children. Indeed, Berberich (1971) stated that in his review of the literature he was "unable to find a single study in which a child's behavior had been systematically manipulated so that its effects on an adult could be specified."

As suggested by Gewirtz and Boyd (1976), a child's apparent behaviors in learning situations can be manipulated to examine those behaviors' potential control over an adult's responses toward the child. In the present study, we examined the influence of systematic trends in the successfulness of a child's performance upon subsequent parental disciplinary actions. In general, we provided mothers with predetermined sequences of trial-by-trial information about their sons' successes and failures on learning tasks. This predetermined information made it appear to mothers that their sons were doing either progressively better, worse, or that there was no systematic change in their son's performance. We measured the effects of these trends on the amount of rewards and punishers that mothers administered to their sons.

Results indicated that each different trend in the boys' success rate had unique effects on maternal reward and punishment. A stable success rate had no systematic differential effects on either reward or punishment; a child's performance that improved over trials led to increases in his mothers' rewarding but did not influence her punishing; and, interestingly, a child's deteriorating performance occasioned increases in both maternal rewarding and punishing.

Several investigators (Cantor & Gelfand, 1977; Klein, 1971; Passman & Mulhern, 1977; Mulhern & Passman, in press; Sherman & Cormier, 1974; Stevens-Long, 1973) have shown that adults generally become more rewarding

when a child's behavior becomes more appropriate. Also, adults become more punitive when a child's behavior becomes less appropriate. For example, in one of the few studies using mother-child dyads, Passman and Mulhern (1977) found that when the frequency of children's errors increased their mothers punished them more severely. These investigators argued that the increase in the number of errors was stressful to the mothers and, thereby, elicited greater maternal punitiveness. In another study, Mulhern and Passman (in press) experimentally arranged for a child's apparent successes on a learning task to be contingent upon either increases or decreases in the intensity of the mother's punishments. That is, mothers had to vary the amounts of the punisher they administered in order to increase their child's correct responding. These researchers found that a child's success functioned as a reinforcer for the parent, in that successes could be used either to increase or to decrease the amount of punishment mothers delivered. In sum, these studies suggest that a child's behavior has both eliciting and reinforcing influences on parents.

Studies such as these suggest that deteriorations in children's performances should result in increases in maternal punishment and decreases in reward. Conversely, improvement in children's performances should result in decreases in maternal punishment and increases in reward.

Thirty mothers (24-45 years old) and their sons (4 to 7.5 years old: median age 6 years) participated in the present study. Each mother was separated from her son and told that he would be working in another room on an age-appropriate learning task under the direction of a research assistant. Furthermore, the mother was told that she was to monitor her son's performance telemetrically. That is, following each trial on the task, the assistant would signal her whether the boy's response had been right or wrong. Thereafter, the mother could either add or subtract some number of m&m's from a supply previously given to him.

Mothers then sat in front of a console containing red and green lights and a row of buttons labeled 0 through 9. The mother was told that following a correct response by her son, the green light would come on and that she could give 0 to 9 m&m's to him. Following an incorrect response, the red light would illuminate and she could remove 0 to 9 m&m's.

Each mother was randomly assigned to one of three conditions (Table 1).

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Insert Table 1 about here

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Mothers were exposed to three blocks of thirty trials each, in which the proportion of their sons' correct to incorrect responses either decreased from 80% to 50% to 20%, increased from 20% to 50% to 80% or remained at 50% throughout.

After each esssion, the mother was interviewed to assure that she believed that she was monitoring her son's performance. Thereafter, the mothers were briefed about the procedure and the rationale for any deception. Notably, none of the mothers was distressed by the procedure; rather, responses to the experience were positive and understanding. A further indication of the mothers' positive responses to the procedure was obtained by asking each mother to recommend a friend to participate and, if so, if her name could be used in the recruitment. No mother refused neither request.

The data were evaluated by means of 3(Blocks of 30 trials) X 3 (Child's apparent performance: Improving, stable or deteriorating) analyses of variance, and pairwise comparisons were analyzed using Tukey tests ($\alpha = .05$). For the amount of reward that mothers delivered, the interaction of Block X Performance was reliable, $F\ (4,54) = 3.69$ $p < .025$, as was the main effect for Blocks, $F\ (2,54) = 23.80$, $p < .001$), with Performance being marginally significant, $F\ (2,27) = 2.62$, $p < .10$. As can be noted in Figure 1,

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Insert Figure 1 about here

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mothers increased their rewarding when the percentage of successes went up (Blocks 2 and 3 were significantly greater than Block 1). And, interestingly, there were also increases when the percentage of successes went down (Block 3>2> 1). When the percentage of successes remained stable, no reliable changes in maternal rewarding were observed.

For the number of candies removed, Performance was a significant factor, F (2,27)= 4,19, $p < .025$, and Blocks was marginally significant, F (3,54)= 3,08, $p < .06$. Figure 2 shows that mothers in the decreasing success condition reliably

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Insert Figure 2 about here

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punished their sons more severely than mothers in the stable or increasing conditions. Additionally, significant increases in punishment occurred only when the percentage of successes decreased (Blocks 2 and 3>1). Otherwise, no reliable changes in punishment were observed.

To summarize, a stable rate of success did not affect either maternal reward or punishment. An improving performance by the boys led to increase in rewarding but did not influence punishing. And, a worsening success rate occasioned increases in both maternal reward and punishment.

The findings indicate that systematic trends in children's responding exert differential control over the mothers' rewarding and punishing. In the case of the mothers' administration of punishment, the finding that the increased errors heightened punitiveness replicates previous results by Passman and Mulhern (1977).

Their work would lead one to suggest that the deteriorating performance was stressful to the mother and so led to an elevation in punitiveness. Even more recently, Knutson (1978) has argued that parental discipline is a form of aggression, purposefully directed against one's offspring. In this regard, he discussed the concept of "irritable aggression", that is, punishment evoked by noxious antecedents. In the present experiment, the boy's worsening performance may have constituted a set of such noxious antecedents which elicited increases in maternal punitiveness.

But, stable performances, and somewhat surprisingly, improving trends did not affect the patterns of punishment. One might have expected mothers to lessen the degree of punitiveness when the child began improving. Indeed, previous results by Klein (1971), Sherman and Cormier (1974), and Stevens-Long (1973) have shown that punitiveness decreases when appropriate behaviors increase. However, these past studies with adults and children unfamiliar to them did not examine the unique relations between parents and their own children, or, more specifically, between mothers and their sons. Apparently, the mothers set consistent levels of punishment for the boys and did not deviate from them unless their sons' performance worsened to a stressful or an irritable degree.

With regard to rewarding, the magnitude of reward remained constant only when the child's performance was stable. Progressive improvements in performance led to increases in reward. These findings are in agreement with past research examining nonparent-child interactions (Klein, 1971; Sherman & Cormier, 1974; Stevens-Long, 1973) and extend this phenomenon to mothers and their sons. However, the increases in rewarding for worsening performances was not expected and stands in contrast to these previous findings. Again, the procedural differences of our having used mothers and their sons may partially account for this inconsistency. It may also have been the case that the mothers used the

rewards to compensate the child for her heightened punitiveness (as parents might be doing when they hug their child after a spanking). Alternatively, the correct responses, which were frequent at the outset of the experiment but which became rarer toward the end, may somehow have increased in value to the mothers and thus merited the enhanced rewarding.

On the matter of the reliability of these later data, since the completion of this research, we have replicated the findings that increases in both punishment and reward occur when the child's behavior becomes increasingly less successful. We are currently in the process of conducting additional research concerning the effects that childrens' behaviors have on parental reward and punishment.

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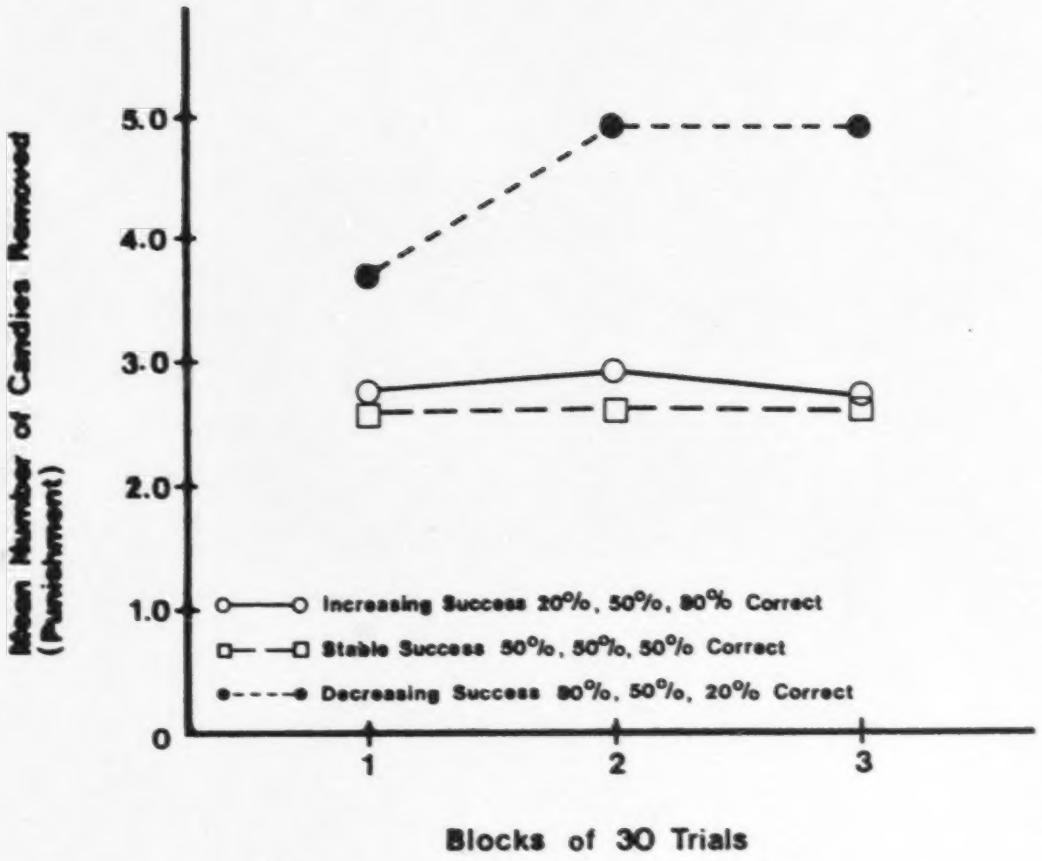
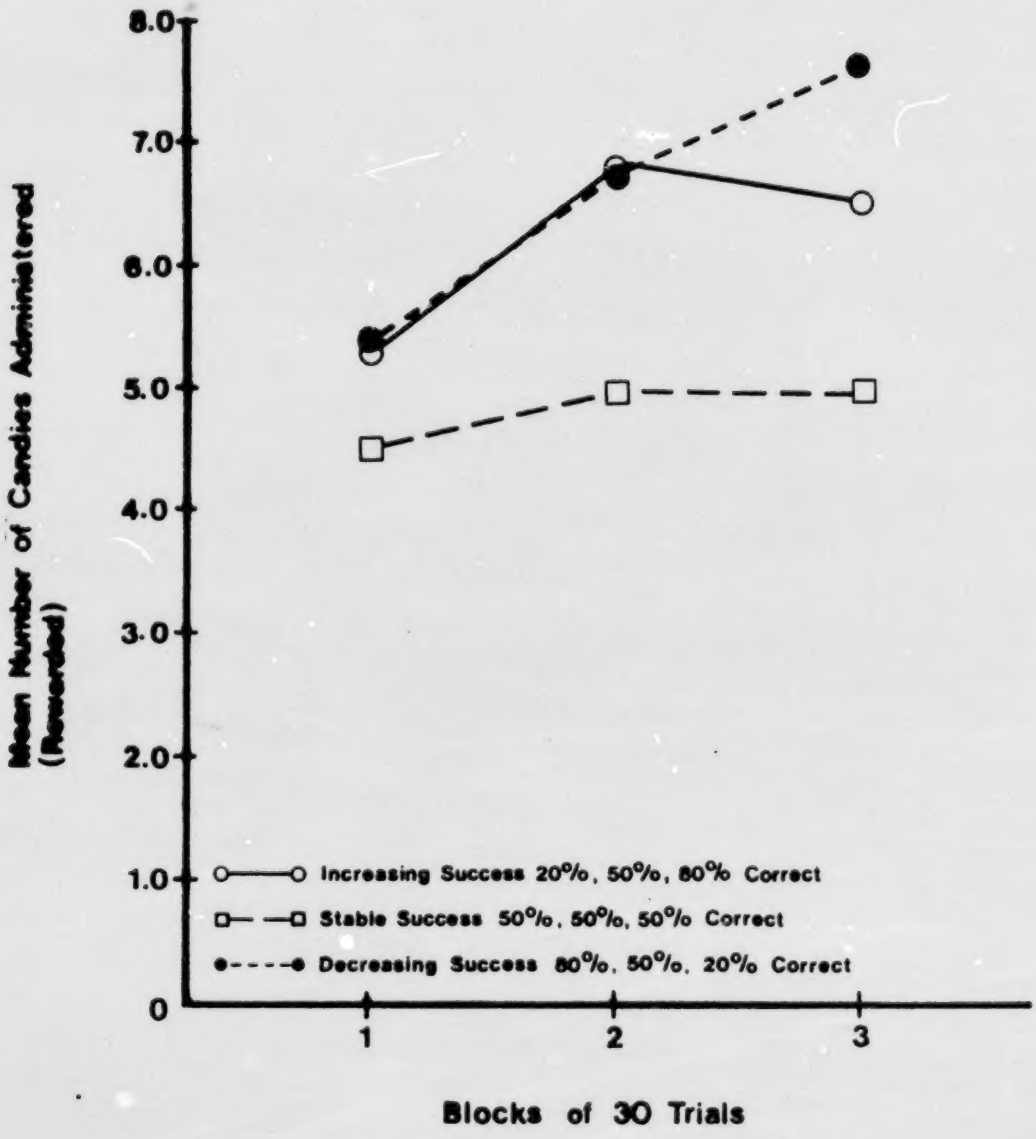
PERCENT OF CORRECT RESPONSES SEEMINGLY MADE BY THE CHILDREN WITHIN EACH BLOCK OF 30 TRIALS

	FIRST 30 TRIALS	SECOND 30 TRIALS	THIRD 30 TRIALS
DECREASING SUCCESS	80%	50%	20%
STABLE SUCCESS	50%	50%	50%
INCREASING SUCCESS	20%	50%	80%


Mean Number of Candies Removed (Punishment)
5.0
4.0
3.0
2.0
1.0
0
1
2
3
Increasing Success 20%, 50%, 80% Correct
Stable Success 50%, 50%, 50% Correct
Decreasing Success 80%, 50%, 20% Correct
Blocks of 30 Trials


Mean Number of Candies Administered (Rewarded)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0
1
2
3
Increasing Success 20%, 50%, 80% Correct
Stable Success 50%, 50%, 50% Correct
Decreasing Success 80%, 50%, 20% Correct
Blocks of 30 Trials